In the Claims

Claims 1-17 (canceled)

18 (new). An IL-2 independent feline-derived T cell which is susceptible to infection by FIV, wherein said cell does not require FIV infection for IL-2 independence.

19 (new). The cell according to claim 18, wherein said cell is infected with an FIV virus.

20 (new). The cell according to claim 19, wherein said FIV virus is a strain of FIV selected from the group consisting of FIV_{Dix}, FIV_{UK8}, FIV_{Bang}, FIV_{Aom1}, FIV_{Aom2}, FIV_{Pet}, and FIV_{Shi}.

21 (new). The cell according to claim 19, wherein the subtype of said FIV virus is selected from the group consisting of subtypes A, B, C, and D.

22 (new). The cell according to claim 19, wherein said cell expresses an FIV protein, or a fragment thereof.

23 (new). The cell according to claim 22, wherein said FIV protein comprises FIV envelope glycoprotein, or a fragment thereof.

24 (new). The cell according to claim 23, wherein said FIV envelope glycoprotein comprises the amino acid sequence shown in SEQ ID NO. 1.

25 (new). The cell according to claim 19, wherein said cell is infected with two or more different strains of FIV.

26 (new). The cell according to claim 25, wherein said FIV strains are selected from the group consisting of FIV_{Dix}, FIV_{UK8}, FIV_{Bang}, FIV_{Aom1}, FIV_{Aom2}, FIV_{Pet}, and FIV_{Shi}.

27 (new). The cell according to claim 19, wherein said cell is treated in a manner to inactivate the FIV virus infecting said cell.

28 (new). The cell according to claim 19, wherein said cell is treated in a manner to attenuate the FIV virus infecting said cell.

29 (new). The cell according to claim 22, wherein said FIV protein is a chimeric protein comprising amino acid sequences of a protein from at least two different FIV subtypes.

30 (new). The cell according to claim 29, wherein said chimeric protein comprises FIV envelope glycoprotein.

31 (new). A vaccine composition that induces an immune response against two or more subtypes of FIV in an animal susceptible to infection by FIV, comprising an effective amount of an FIV immunogen to induce said immune response, wherein said FIV immunogen comprises an immunogen or immunogens derived from or comprising at least two different FIV subtypes.

32 (new). The vaccine composition according to claim 31, wherein said immunogen is or immunogens are, independently, selected from the group consisting of synthetic FIV peptide, natural or recombinant FIV protein or an immunogenic fragment of said FIV protein, cell-free whole or partial FIV virus, and a cell infected with FIV virus.

33 (new). The vaccine composition according to claim 32, wherein said FIV virus or FIV-infected cell is treated in a manner to inactivate said FIV virus or the FIV virus infecting said cell prior to administration of said vaccine to said animal.

34 (new). The vaccine composition according to claim 32, wherein said FIV virus or FIV-infected cell is treated in a manner to attenuate said FIV virus or the FIV virus infecting said cell prior to administration of said vaccine to said animal.

35 (new). The vaccine composition according to claim 31, wherein said at least two different FIV subtypes are selected from the group consisting of subtypes A, B, C, and D.

36 (new). The vaccine composition according to claim 31, wherein said at least two different FIV subtypes are subtypes A and D.

37 (new). The vaccine composition according to claim 31, wherein said FIV immunogen is or immunogens are from an FIV virus strain selected from the group consisting of FIV_{Dix}, FIV_{UK8}, FIV_{Bang}, FIV_{Aom1}, FIV_{Aom2}, FIV_{Pet}, and FIV_{Shi}.

38 (new). The vaccine composition according to claim 32, wherein said cell is from the cell line designated FeT-1C having ATCC accession number CRL 11968 infected with FIV.

39 (new). The vaccine composition according to claim 32, wherein said cell is from the cell line designated FeT-J having ATCC accession number CRL 11967 infected with FIV.

40 (new). The vaccine composition according to claim 32, wherein said cell is from the cell line designated FL-4 having ATCC accession number CRL 10772 infected with FIV.

41 (new). The vaccine composition according to claim 32, wherein said cell is from the cell line designated FeT-1M having ATCC accession number CRL 10775 infected with FIV.

42 (new). The vaccine composition according to claim 32, wherein said cell is infected with FIV_{Shi} and said cell is from a cell line designated Shi/FeT-1C having ATCC accession number CRL 11976.

43 (new). The vaccine composition according to claim 32, wherein said cell is infected with FIV_{Bang} and said cell is from a cell line designated Bang/FeT-J having ATCC accession number CRL 11975.

44 (new). The vaccine composition according to claim 32, wherein said cell is from a cell line having the identifying characteristics of the T cell line deposited under ATCC accession number CRL 11968.

45 (new). The vaccine composition according to claim 32, wherein said cell is from a cell line having the identifying characteristics of the T cell line deposited under ATCC accession number CRL 11967.

46 (new). The vaccine composition according to claim 32, wherein said cell is from a cell line having the identifying characteristics of the T cell line deposited under ATCC accession number CRL 10772.

47 (new). The vaccine composition according to claim 32, wherein said cell is from a cell line having the identifying characteristics of the T cell line deposited under ATCC accession number CRL 10775.

48 (new). The vaccine composition according to claim 32, wherein said cell is infected with FIV_{Shi} and said cell is from a cell line having the identifying characteristics of the T cell line deposited under ATCC accession number CRL 11976.

49 (new). The vaccine composition according to claim 32, wherein said cell is infected with FIV_{Bang} and said cell is from a cell line having the identifying characteristics of the T cell line deposited under ATCC accession number CRL 11975.

50 (new). The vaccine composition according to claim 31, wherein said animal is a cat.

51 (new). The vaccine composition according to claim 32, wherein said FIV protein comprises FIV envelope glycoprotein, or an immunogenic fragment thereof.

52 (new). The vaccine composition according to claim 51, wherein said FIV envelope glycoprotein comprises the amino acid sequence shown in SEQ ID NO. 1.

53 (new). The vaccine composition according to claim 32, wherein said FIV protein is a chimeric protein comprising amino acid sequences of a protein from at least two different FIV subtypes.

54 (new). The vaccine composition according to claim 53, wherein said chimeric protein comprises FIV envelope glycoprotein.

55 (new). The vaccine composition according to claim 31, wherein said vaccine composition further comprises an adjuvant.

56 (new). The vaccine composition according to claim 55, wherein said adjuvant is selected from the group consisting of threonyl muramyl dipeptide, alum, complete Freund's, and incomplete Freund's.

57 (new). The vaccine composition according to claim 31, wherein said vaccine composition is administered parenterally, orally, or nasally.

58 (new). The vaccine composition according to claim 57, wherein said parenteral administration is by subcutaneous, intraperitoneal, or intramuscular injection.

59 (new). The vaccine composition according to claim 32, wherein said FIV-infected cell is present in a dose of from about 10^6 cells to about 10^8 cells.

60 (new). The vaccine composition according to claim 32, wherein said FIV-infected cell is present in a dose of from about 5×10^6 cells to about 7.5×10^7 cells.

61 (new). The vaccine composition according to claim 32, wherein said cell-free whole or partial FIV virus is present in a dose from about 0.1 mg to about 5 mg.

62 (new). The vaccine composition according to claim 32, wherein said cell-free whole or partial FIV virus is present in a dose from about 0.2 mg to about 2 mg.

63 (new). The vaccine composition according to claim 31, wherein said FIV immunogen comprises (a) cells infected with FIV of a first subtype and (b) cell-free whole or partial FIV of a second subtype, wherein said first and second subtype of said FIV are selected from the group consisting of A, B, C, and D, and wherein said first and second subtype of FIV are not the same.

64 (new). A method for inducing an immune response against two or more subtypes of FIV in an animal susceptible to infection by FIV, comprising administering to said animal an effective amount of a vaccine composition comprising an FIV immunogen, wherein said FIV immunogen comprises an immunogen or immunogens derived from or comprising at least two different FIV subtypes.

65 (new). The method according to claim 64, wherein said immunogen is or immunogens are, independently, selected from the group consisting of synthetic FIV peptide, natural or recombinant FIV protein or an immunogenic fragment of said FIV protein, whole or partial cell-free FIV virus, and a cell infected with FIV virus.

66 (new). The method according to claim 65, wherein said FIV virus or FIV-infected cell is treated in a manner to inactivate said FIV virus or the FIV virus infecting said cell prior to administration of said vaccine to said animal.

67 (new). The method according to claim 66, wherein said FIV virus or FIV-infected cell is treated in a manner to attenuate said FIV virus or the FIV virus infecting said cell prior to administration of said vaccine to said animal.

68 (new). The method according to claim 64, wherein said at least two different FIV subtypes are selected from the group consisting of subtypes A, B, C, and D.

69 (new). The method according to claim 64, wherein said at least two different FIV subtypes are subtypes A and D.

70 (new). The method according to claim 64, wherein said FIV immunogen is or immunogens are from an FIV virus strain selected from the group consisting of FIV_{Dix}, FIV_{UK8}, FIV_{Bang}, FIV_{Aom1}, FIV_{Aom2}, FIV_{Pet}, and FIV_{Shi}.

71 (new). The method according to claim 65, wherein said cell is from the cell line designated FeT-1C having ATCC accession number CRL 11968 infected with FIV.

72 (new). The method according to claim 65, wherein said cell is from the cell line designated FeT-J having ATCC accession number CRL 11967 infected with FIV.

73 (new). The method according to claim 65, wherein said cell is from the cell line designated FL-4 having ATCC accession number CRL 10772 infected with FIV.

74 (new). The method according to claim 65, wherein said cell is from the cell line designated FeT-1M having ATCC accession number CRL 10775 infected with FIV.

75 (new). The method according to claim 65, wherein said cell is infected with FIV_{Shi} and said cell is from a cell line designated Shi/FeT-1C having ATCC accession number CRL 11976.

76 (new). The method according to claim 65, wherein said cell is infected with FIV_{Bang} and said cell is from a cell line designated Bang/FeT-J having ATCC accession number CRL 11975.

77 (new). The method according to claim 65, wherein said cell is from a cell line having the identifying characteristics of the T cell line deposited under ATCC accession number CRL 11968.

78 (new). The method according to claim 65, wherein said cell is from a cell line having the identifying characteristics of the T cell line deposited under ATCC accession number CRL 11967.

79 (new). The method according to claim 65, wherein said cell is from a cell line having the identifying characteristics of the T cell line deposited under ATCC accession number CRL 10772.

80 (new). The method according to claim 65, wherein said cell is from a cell line having the identifying characteristics of the T cell line deposited under ATCC accession number CRL 10775.

81 (new). The method according to claim 65, wherein said cell is infected with FIV_{Shi} and said cell is from a cell line having the identifying characteristics of the T cell line deposited under ATCC accession number CRL 11976.

82 (new). The method according to claim 65, wherein said cell is infected with FIV_{Bang} and said cell is from a cell line having the identifying characteristics of the T cell line deposited under ATCC accession number CRL 11975.

83 (new). The method according to claim 64, wherein said animal is a cat.

84 (new). The method according to claim 65, wherein said FIV protein comprises FIV envelope glycoprotein, or an immunogenic fragment thereof.

85 (new). The method according to claim 84, wherein said FIV envelope glycoprotein comprises the amino acid sequence shown in SEQ ID NO. 1.

86 (new). The method according to claim 64, wherein said FIV protein is a chimeric protein comprising amino acid sequences of a protein from at least two different FIV subtypes.

87 (new). The method according to claim 86, wherein said chimeric protein comprises FIV envelope glycoprotein.

88 (new). The method according to claim 64, wherein said vaccine composition further comprises an adjuvant.

89 (new). The method according to claim 88, wherein said adjuvant is selected from the group consisting of threonyl muramyl dipeptide, alum, complete Freund's, and incomplete Freund's.

90 (new). The method according to claim 64, wherein said vaccine composition is administered parenterally, orally, or nasally.

91 (new). The method according to claim 90, wherein said parenteral administration is by subcutaneous, intraperitoneal, or intramuscular injection.

92 (new). The method according to claim 65, wherein said FIV-infected cell is administered in a dose of from about 10^6 cells to about 10^8 cells.

93 (new). The method according to claim 65, wherein said FIV-infected cell is administered in a dose of from about 5×10^6 cells to about 7.5×10^7 cells.

94 (new). The method according to claim 65, wherein said cell-free whole or partial FIV virus is present in a dose from about 0.1 mg to about 5 mg.

95 (new). The method according to claim 65, wherein said cell-free whole or partial FIV virus is present in a dose from about 0.2 mg to about 2 mg.

96 (new). The method according to claim 64, wherein said vaccine composition is administered to said animal at least two times with an interval of at least one week between each administration.

97 (new). The method according to claim 64, wherein said FIV immunogen comprises (a) cells infected with FIV of a first subtype and (b) cell-free whole or partial FIV of a second subtype, wherein said first and second subtype of said FIV are selected from the group consisting of A, B, C, and D, and wherein said first and second subtype of FIV are not the same.

98 (new). A method for detecting or determining the quantity of FIV viral neutralization antibodies in a sample, comprising contacting said sample with FIV; culturing a feline peripheral blood mononuclear cell or a cell from a feline-derived T cell line susceptible to infection by at least one FIV subtype, wherein said FIV subtype is selected from the group consisting of subtypes A, B, C, and D, in said sample for an effective amount of time; culturing said cell in fresh culture media and then determining the amount of reverse transcriptase activity in said culture media.

99 (new). The method according to claim 98, wherein said cell line is selected from the group consisting of a cell line designated as FeT-1C and having ATCC accession number CRL 11968 and a cell line designated as FeT-J and having ATCC accession number CRL 11967.

100 (new). An antibody that binds specifically to a cell of claim 18.

101 (new). A method for identifying a target FIV strain in a DNA sample, comprising

(a) contacting DNA from a cell of a host animal that is susceptible to infection by FIV with a first oligonucleotide primer set that binds to nucleic acid sequences common to all FIV strains under conditions sufficient for polymerase chain reaction (PCR), wherein a first amplification product is produced if FIV proviral DNA sequences are present in said DNA;

(b) contacting said first amplification product from step (a) under conditions sufficient for polymerase chain reaction with a second oligonucleotide PCR primer set that binds to and amplifies a nucleic acid sequence specific to a target FIV strain present on said first amplification product; and

(c) detecting an amplification product from step (b) having a nucleic acid sequence specific to said target FIV strain.

102 (new). The method according to claim 101, wherein said first oligonucleotide primer set comprises the nucleotide sequences of SEQ ID NO. 3 and SEQ ID NO. 4.

103 (new). The method according to claim 101, wherein said second oligonucleotide primer set comprises the nucleotide sequences selected from the group consisting of SEQ ID NOs. 5 and 6, SEQ ID NOs. 7 and 8, SEQ ID NOs. 9 and 10, SEQ ID NOs. 11 and 12, SEQ ID NOs. 13 and 14, and SEQ ID NOs. 15 and 16.

104 (new). The method according to claim 101, wherein said target FIV strain is selected from the group consisting of FIV_{Pet}, FIV_{UK8}, FIV_{Bang}, FIV_{Aom1}, FIV_{Aom2}, and FIV_{Shi}.

105 (new). An oligonucleotide selected from the group consisting of SEQ ID NO. 3, SEQ ID NO. 4, SEQ ID NO. 6, SEQ ID NO. 7, SEQ ID NO. 8, SEQ ID NO. 10, SEQ ID NO. 11, SEQ ID NO. 12, SEQ ID NO. 13, SEQ ID NO. 14, SEQ ID NO. 15, and SEQ ID NO. 16.

106 (new). An FIV peptide consisting of the amino acid sequence shown in SEQ ID NO. 1 or SEQ ID NO. 2.

107 (new). An antibody that specifically binds to an FIV peptide of claim 106.